

**TRANSLATION**

**PATENT COOPERATION TREATY**

**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>RKE 02-03 PCT</b>	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. <b>PCT/DE2004/001790</b>	International filing date (day/month/year) <b>10.08.2004</b>	Priority date (day/month/year) <b>20.12.2003</b>
International Patent Classification (IPC) or national classification and IPC <b>B61L23/00</b>		
Applicant <b>RAG AKTIENGESELLSCHAFT</b>		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 7 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 2 sheets, as follows:

☒ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

☒ Box No. I Basis of the report

☐ Box No. II Priority

☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

☐ Box No. IV Lack of unity of invention

☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

☐ Box No. VI Certain documents cited

☒ Box No. VII Certain defects in the international application

☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

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Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23.1(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on (replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-7 \_\_\_\_\_ as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. \_\_\_\_\_ as originally filed/furnished
- nos.\* \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos.\* 1-8 \_\_\_\_\_ received by this Authority on /filed with the demand
- nos.\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the drawings:
- sheets 1/2, 2/2 \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☒ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☒ the claims, nos. 9, 10 \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of these sheets may be marked "superseded"

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement		
1. Statement			
Novelty (N)	Claims	1-8	YES
	Claims		NO
Inventive step (IS)	Claims		YES
	Claims	1-8	NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO
2. Citations and explanations (Rule 70.7)			
1. This report makes reference to the following documents:			
D1: EP-A-1 216 910 (EISENMANN KG MASCHBAU) 26 June 2002 (2002-06-26)			
D2: DE 88 16 616 U (BARMAG AG) 1 February 1990 (1990-02-01)			
D3: DE 40 14 700 A (BOSCH GMBH ROBERT) 14 November 1991 (1991-11-14)			
D4: WO 00/52851 A (SPRINGBOARD WIRELESS NETWORKS; COLVIN WILLIAM (CA); ELLIOTT CHARLES ()) 8 September 2000 (2000-09- 08)			
2. INDEPENDENT CLAIM 1			
The present application does not meet the requirements of PCT Article 33(1), because the subject matter of claim 1 does not involve an inventive step within the meaning of PCT Article 33(3).			
D1 is regarded as the prior art closest to			

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Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
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the subject matter of claim 1. It discloses  
(the reference signs in parentheses refer to  
this document):

"a rail-guided transport system for persons  
and material in underground mining and tunnel  
construction, consisting of a rail network  
and transport vehicles ([0001],[0002]) guided  
on this rail network, each transport vehicle  
(2) being equipped on its front end in the  
direction of travel and on the opposite end  
with sensors for detecting optical, acoustic,  
temperature and acceleration information (17,  
18, 32, 33), and  
the sensors being connected to a control  
computer (29) that is arranged in the  
transport vehicle and forms part of a  
telematics system that monitors and controls  
the transport system (25, 26, [0034],  
[0037]),  
the sensors (32,33) interacting with active  
and passive signal transmitters (20,21) in  
the network ([0033]), in which freely  
positionable terminal and station signal  
transmitters can be installed ([0006], in  
particular lines 23 to 30 and 38 to 41)."

The subject matter of claim 1 differs from  
the known transport system in that one of the  
sensors is a laser scanner, whereas D1 merely  
mentions distance sensors in general in  
paragraph [0011].

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The feature of the laser scanner as a distance sensor is, however, only one of several obvious possibilities from which a person skilled in the art would choose according to the circumstances in order to monitor the space in front of the vehicle and to avoid collisions.

## 3 DEPENDENT CLAIMS 2-3 AND 5-7

Claims 2-3 and 5-7 contain no features that, in combination with the features of any claim to which they refer, meet the PCT requirements for novelty and inventive step.

## 4 DEPENDENT CLAIMS 4 and 8

The combination of features claimed in claim 4 is known to a person skilled in the art. It is obvious that vehicles the operators of which do not have an overview of the entire area of movement or which automatically move forward in a non-confined area should warn people who are in the way in a visual (for example, using yellow blinking lights) or acoustic manner (for example, using a horn) so that they can move out of the way.

Therefore, the subject matter of claim 4 does not involve an inventive step (PCT Article 33(3)).

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The subject matter of claim 8, namely the use of an on-board camera for remote-controlled vehicles, is obvious to a person skilled in the art who wishes to minimize the dangers to persons who are in the area of movement without requiring directly manned vehicles.

Therefore, the subject matter of claim 8 does not involve an inventive step (PCT Article 33(3)).

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Box No. VII Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

The description does not indicate any document that reflects the prior art described on pages 1 and 2 (PCT Rule 5.1(a)(ii)).